



Carbon Markets

A quick-start guide for commodities

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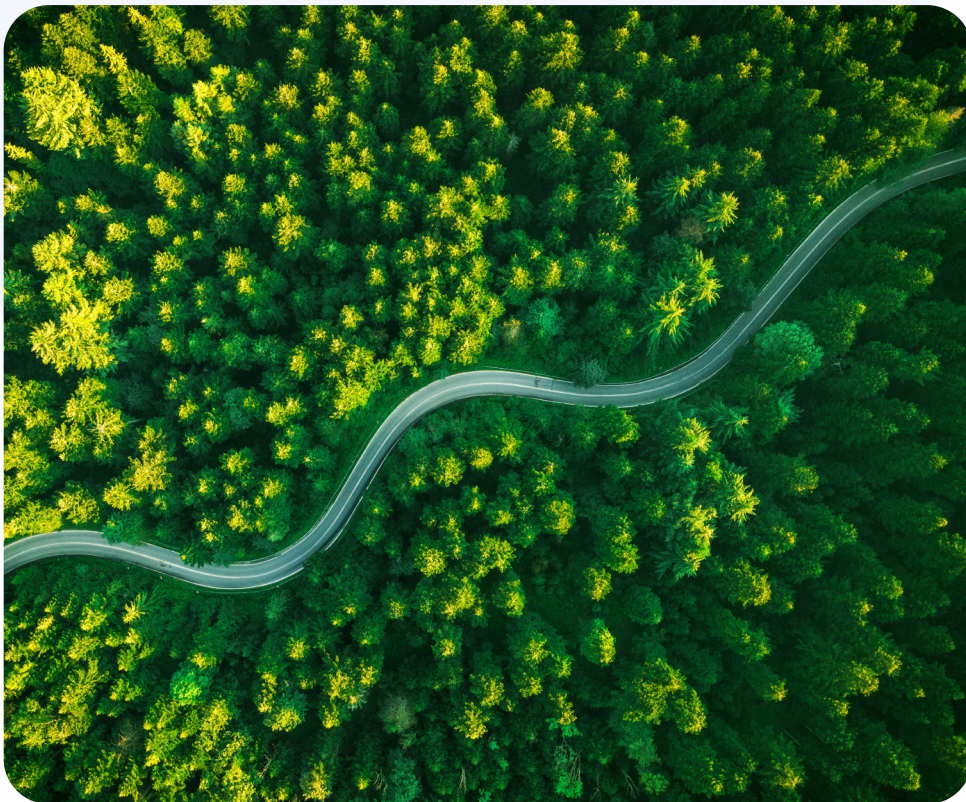
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About this whitepaper

Carbon markets and ESG investing have been in the news for some time now, and global interest in them has only been rising. Over 130 countries have carbon reduction targets of some kind, with new border taxes, reporting schemes and compliance markets being announced regularly.

Despite the public and corporate interest in carbon offsetting, carbon markets themselves are new ground for many of us, so Gen10 have put together this whitepaper as a quick-start guide to some of the key concepts and challenges within these markets. Each section includes a link to the relevant articles on the Gen10 site which dive into more detail on the topic if you'd like to know more.

This whitepaper is designed for individuals who are looking for a quick overview of the main information needed to engage in carbon markets. Gen10's solutions for managing carbon credit trading and its associated risks are not part of the scope of this whitepaper. If your organisation is participating in carbon markets and does not have the right automation and risk management systems in place, we would be happy to send you more information about these solutions.



Key terms

Carbon credit	The tradeable certificate equivalent to one tonne of carbon dioxide captured or prevented. It is typically used as a permit for the end buyer to emit a tonne of CO ₂ .
ESG	Environmental, Social and Governance. ESG is often used as a shorthand for companies and investors when measuring their societal impact.
Greenwashing	Misleading external stakeholders by providing false information about the company's environmental impact.
KYC	Know Your Counterparty. The due diligence process to ensure clients or suppliers are not engaged in activities that pose a risk to the organisation or its reputation.
Net zero	The technology doesn't yet exist for most companies to reduce their carbon emissions to zero. But by reducing or removing an equivalent amount of carbon emissions elsewhere (usually by paying for carbon credits), individuals or businesses can create net zero emissions.
Offsetting	The action of compensating for carbon dioxide emissions by reducing them elsewhere, such as by purchasing credits.
Registry	Registries track offset projects and issue credits for each tonne of CO ₂ the project captures or prevents. They record credit ownership and retirements.
Retirement	When a carbon credit is used to offset a real-world tonne of CO ₂ it is retired. The record at the registry is updated to reflect this and the credit cannot be purchased again.

Factors driving carbon markets

A range of stakeholders are pushing commodities players to act to reduce their carbon footprint and engage in carbon markets. On top of legislation mandating carbon reductions, 80% of investors consider ESG policies when making investment decisions, customers are cleaning up their supply chains, and trade finance providers are increasingly offering preferential rates for lower-carbon or more sustainable cargoes.

Carbon markets have evolved to help businesses and individuals lower their net carbon footprint. They allow organisations that are not able to fully reduce their carbon dioxide emissions to buy carbon credits that offset the remaining emissions. Each credit is the equivalent of one tonne of carbon dioxide where the emissions have either been removed from the

atmosphere (such as by planting a forest) or were prevented, for example by donating renewable power generators or efficient cookstoves to remote villages.

There are also financial incentives to engage in carbon markets. Most compliance carbon markets have a goal of making lower-carbon products a financially viable, or even a cheaper option for industry. And voluntary markets allow producers to offer the lower net carbon products that consumers increasingly demand.

These factors combined mean that all commodity producers, traders and buyers need to be prepared to operate in carbon markets.

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Types of carbon markets

There are many different carbon markets in existence, and the number is constantly changing as new schemes develop. As carbon markets are still in their early stages, future market consolidation is likely, but this is currently slow to materialise.

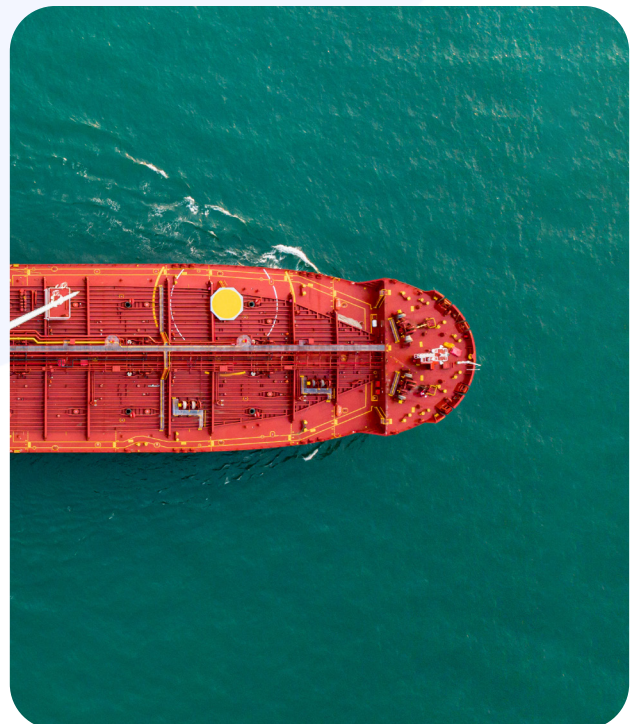
The two main types of carbon markets are compliance and voluntary markets, although these can be broken down

further. For example, compliance markets can operate as cap-and-trade schemes, or emissions trading schemes (ETSs), where companies trade permits to pollute and scarcity sets market prices. Or they can be baseline-and-credit mechanisms where organisations operating below a given carbon threshold can sell credits equivalent to the difference.

Compliance markets	Voluntary markets
Mandated by a government or other body.	Established at the organisational level based on their own agenda.
Usually overseen by regulators, with clear rules and structures.	There may be some oversight in the form of disclosures or over advertising claims but often less regulated than mandatory offsetting.
Credits are generally standardised within a particular scheme, but there are many different schemes.	Each project can be considered on a unique basis, with organisations able to demonstrate improvements against multiple UN Sustainable Development Goals, depending on the projects they choose to fund.
In the early stages but moving towards transparency and co-operation between schemes.	Generally more fragmented and less transparent.

Compliance markets are growing rapidly; they have seen 5 straight years of growth and in 2021 saw record turnover of €760 billion – a 164% increase on the 2020 value. As these compliance markets grow, they are beginning to include some areas of carbon emissions that were previously only served by voluntary markets.

But this is not to say that voluntary markets will be phased out any time soon, as interest in carbon offsetting shows no sign of slowing. Analysts expect market growth in the coming decades. And the ability to specify additional project outcomes (such as meeting Sustainable Development Goals) means that organisations trading in compliance markets may still supplement this activity with purchasing voluntary credits as well.



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Realising the full value of voluntary carbon credits

Compliance markets are standardised, with every credit worth the same one tonne of CO₂, which can be an advantage in situations where efficiency, faster deal-making and liquidity are important. But in voluntary markets, the unique attributes of every carbon project can be captured and factored into pricing.

Some factors affecting the price in these voluntary markets are due to the cost of the project, such as its size and location; remote projects may require a larger investment in logistics as an example. But there are other credit attributes that can help sellers command a better price because they are worth more to buyers. These attributes include:

- **UN Sustainable Development Goals** – projects can deliver other benefits alongside carbon reduction, this could include providing high-quality jobs, clean water, or sustainable infrastructure, all of which could command a higher price.
- **Project methodology** – projects that remove carbon dioxide are generally seen as more beneficial than those that avoid emissions. Other projects may also realise a price premium for improving health outcomes in deprived communities, such as cookstoves that reduce woodburning.
- **Carbon ratings and standards** – a range of independent organisations act as ratings agencies or accrediting bodies to certify that projects are meeting a given standard. This credibility can mean that credits command higher prices.
- **Additional services** – projects may provide photographs, updates, or marketing materials that some organisations find valuable.
- **Vintage** – the year the credit is issued. Buyers are often wary of purchasing older carbon credits, which can push prices down.

The advantage of voluntary markets is that all of these unique variables can be captured against each carbon credit. This allows sellers to realise the true value of their projects and provides a fair price for procurement teams, who can choose the attributes that matter to their organisation. Traceability is essential in these contracts, which can also help organisations avoid accusations of greenwashing, as they can show the real-world impact of their offsets.

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Transparency will be critical

The many different carbon markets are still growing and evolving, so currently lack integration or standardisation across markets. This complexity means that transparency can be a real challenge. There are thousands of projects generating carbon credits, hundreds of participants in carbon markets and many different registries tracking credit production, ownership and retirement.

Carbon markets and registries are working to share data and integrate better, but this will take some time and businesses remain exposed in the meantime. For example, one of the major risks of multiple registries is the risk of double-counting, where a single tonne of carbon dioxide from a project is listed and sold on multiple registries. Being able to trace each credit across any counterparties back to its source reduces

this risk, as does having effective KYC policies and processes.

Low-quality carbon credits also create reputational risks for end buyers and brokers, as an end buyer purchasing a low-quality credit may not actually be offsetting their complete carbon footprint and risks accusations of greenwashing. Purchasing low-quality credits can even cause net harm as it means money is being diverted away from projects that would have had an environmental impact.

Brokers, too, could be affected if they are not performing due diligence on the projects behind the credits they collate, and not providing transparency to end users, as they could face legal as well as reputational risks.

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The benefits of transparency

As well as managing risk, there are many positive reasons why those involved in the carbon credit lifecycle would want to focus on transparency, including the ability to capture the pricing benefits listed above.

It is also important to begin putting transparency and data management in place now so that your organisation is prepared for future disruption as compliance markets develop. Some market developments will arrive sooner than you may expect. For example, the EU has proposed a new carbon border tax that will only be paid from 2026 but includes mandatory reporting from January 2023.

Creating internal transparency within your organisation will also be important, whether you are engaged in compliance or in voluntary markets. As with any market, decisions need to be made based on your organisation's exposure, positions and

inventory so that your people can protect the organisation from risk and make the most of opportunities.

Creating effective data sharing within your organisation allows your people to respond to changes in any of the diverse markets you are operating in. With faster access to more information, they can make data-driven decisions that can create greater profitability. This is especially important in standardised compliance markets where liquidity improvements will likely cause the market to move faster in future.

Improving transparency therefore means that organisations can function better, respond to change faster, command better prices and become a supplier of choice to clients.

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Participating in carbon markets means getting your data in order

Whether you are procuring carbon credits to offset your own emissions or trading carbon as a commodity, new markets mean new data to manage. Compliance markets rely on organisations calculating their carbon emissions and linking these to the credits they have purchased and retired. And voluntary markets have the optionality to price in many different credit attributes – if you can record them.

Data is also needed for risk management; with price volatility and rapidly rising prices, organisations need up-to-date position reports to understand their exposure and hedge appropriately. This is particularly important in carbon, where it is entirely possible for organisations to be operating in multiple markets, with different reporting requirements, at the same time. And of the organisations that use internal carbon pricing, 2/3 do so as a risk management tool.

Improving transparency systems or technologies can provide better fraud

prevention than standard KYC checks as it allows end buyers to understand the provenance of every credit. And brokers who create portfolios from diverse assets need systems that manage credit attributes across their entire operation, whether they are split or combined with other credits, for both fraud prevention and to maximise profitability.

Providing carbon credit data to supply chain partners can also be an advantage in commodity trading. As organisations gain a better understanding of their carbon footprints and climate obligations, they are growing increasingly concerned with their indirect supply chain emissions, so partners that can carbon offset a given commodity shipment may be at a competitive advantage. And some trade finance providers are improving their own carbon metrics by offering preferential rates for deals with proven green credentials.

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Afterword: What's next?

Technology plays a vital role in helping organisations collate, manage and act on the large amounts of data necessary to make the best procurement and trading decisions in complex carbon markets.

Gen10's **NetZero OS** helps you get your data in order, empowers secure real-time data flows across your organisation and automates administrative tasks that introduce operational risk.

NetZero OS provides complete transparency across your operations, allowing you to track every attribute of individual credits across the lifecycle, even when contracts are split or combined. And real-time data combines with automated auditing and reporting to ensure complete position visibility at all times.

With **NetZero OS** you can participate fully in carbon markets, whether your goal is to manage the risk of future carbon prices, offset your carbon emissions or create value from trading carbon credits. Manage contracts, inventory, allocations and risk with **NetZero OS** so that you can originate, trade and trace carbon credits across the entire credit lifecycle.

[Book a call](#) with us today to discuss how **NetZero OS** could help your organisation make the most of the expanding new carbon markets.

[Choose a time >](#)



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